

REMARKS

Claims 10 and 12 have been canceled. Thus, elected method claims 5, 6, 9, 11 and 17-19 remain pending for further prosecution in the present application. Independent claims 5 and 19 have been amended to overcome rejections. Accordingly, Applicants respectfully submit that the present application is in condition for allowance.

I. Claim Rejection - 35 USC §112, Second Paragraph

In the FINAL Office Action dated February 22, 2010, claim 19 is rejected under 35 USC §112, second paragraph, as having claim limitations with insufficient antecedent basis.

Claim 19 has been amended to fully comply with the requirements of 35 USC §112, second paragraph. Proper antecedent basis is provided for all method step claim limitations. No new matter was added. Accordingly, Applicants respectfully request reconsideration and removal of the rejection.

II. Claim Rejection - 35 USC §103(a)

In the FINAL Office Action dated February 22, 2010, claims 5, 6, 9-12 and 17-19 are rejected under 35 USC §103(a) as being obvious in view of U.S. Patent No. 6,500,321 B1 issued to Ashtiani et al. in view of JP 04-231461 A.

In the FINAL Office Action, it is acknowledged that the primary cited reference, Ashanti et al., “is limited in that packaging the sputtering target is not suggested.” However, the claims of the present application are specifically directed to a method of packaging a hollow cathode sputtering target. Accordingly, Applicants respectfully submit that Ashtiani et al. fail to render

any aspect of the process steps of the packaging method of the present invention obvious to one of ordinary skill in the art. Ashanti et al. simply do not disclose a method of packaging an item.

In the FINAL Office Action, it is acknowledged that the secondary cited reference, JP ‘461, is limited to “a packaging method for a planar sputtering target”. Thus, JP ‘461 clearly fails to provide a method of packaging a hollow cathode (i.e., cup-shaped) sputtering target. Accordingly, Applicants respectfully submit that JP ‘421 fails to render the present invention obvious to one of ordinary skill in the art because the sputtering target being packaged and the protector being applied to the sputtering target of JP ‘421 are significantly different to that of the present invention as previously explained in detail in Applicants’ last response.

Further, JP ‘461 is directed to covering a tabular sputtering target bonded to the top surface of a tabular backing plate. The backing plate is of greater diameter than the sputtering target and its peripheral edge extends beyond that of the sputtering target. Accordingly, the “protector” (4) of JP ‘461 is “cylindrical” and has an inner diameter greater than the diameter of the sputtering target and thus never contacts the sputtering target. This is required because the cylindrical protector (4) of JP ‘461 must fit over and receive the sputtering target therein and must instead engage the front surface of the backing plate which extends beyond the peripheral edge of the sputtering target. Thus, the cylindrical protector (4) of JP ‘461 does not cover or contain the backing plate. See FIGs. 1-3 of JP ‘461. Thus, the “cylindrical” shape of JP ‘461 is a necessity.

In contrast with the cylindrical protector (4) required by JP ‘461, the “cover” required by independent claims 5 and 19 of the present application is required to be capable of covering the void of a hollow cathode-type sputtering target, is provided with a plurality of holes for subjecting the void of the sputtering target to vacuum evacuation, is configured from a material

with rigidity that will not excessively deform or bend upon vacuum evacuation, and is configured from a “flat plate” that is capable of retaining its “flat” shape even after the vacuum evacuation. JP’461 clearly fails to disclose or make obvious this combination of limitations.

Accordingly, a significant difference between JP ‘461 and the claims of the present application is that JP ‘461 requires a “cylindrical” or “tubular” shaped protector (4) having an annular outer sidewall and the claims of the present application requires a “flat plate”. (Note claim 19 further recites the closed-ended language requiring a cover “consisting” of a flat plate.) The cylindrical protector (4) of JP ‘461 is required to cover and not contact the sputtering target and to directly contact and engage an outer peripheral front surface of a backing plate to which the sputtering target is bonded.

Applicants respectfully submit that when a §103 rejection is based upon a modification of a reference that destroys the intent, purpose or function of the invention disclosed in the reference, such a proposed modification is not proper and a *prima facie* case of obviousness cannot be properly made. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Here, JP ‘461 requires a cylindrical or tubular protector (4) with an annular outer sidewall. In contrast, the cover of the present invention is without an annular sidewall. In JP ‘461 this annular sidewall is required such that it receives the sputtering target including the sputtering face of the sputtering target therein and such that it contacts and engages a front face of a backing plate to which the sputtering target is bonded. See FIGs. 1-3 of JP ‘461. Deleting the annular sidewall from JP ‘461 would destroy the intent, purpose and function of the invention disclosed in JP ‘461 because a flat protector would contact the sputtering face of the sputtering target of JP ‘461 and would be unable to engage the backing plate. Thus, one of ordinary skill in

the art would avoid modifying the protector (4) of JP '461 to a flat plate as required by the claims of the present application.

For at least this reason, Applicants respectfully request reconsideration and removal of the rejection.

Claims 18 and 19 of the present application require the further limitation that the cover “consists” of a “flat” plate that “contacts only the rim of the cup-shaped hollow cathode sputtering target and that does not extend below the rim.” The cylindrical protector of JP '461 must absolutely extend below the rim of its sputtering target if it is to avoid contact with the sputtering target, receive the sputtering target within its void, and rest on the front face of the backing plate. As stated above, deleting the annular sidewall from JP '461 would destroy the intent, purpose and function of the invention disclosed in JP '461 because a flat protector would contact the sputtering face of the sputtering target of JP '461 and would be unable to engage the backing plate. Thus, one of ordinary skill in the art would avoid modifying the protector (4) of JP '461 to a flat plate as required by the claims of the present application.

For at least this further reason, Applicants respectfully request reconsideration and removal of the rejection.

Still further, the inner diameter of the cylindrical protector (4) of JP '461 must be able to contain the target material therein and must be able to confront a surface of the backing plate such that the backing plate is not received in the void of the cylindrical protector. Thus, one of ordinary skill in the art is aware that the size and shape of the protector (4) is only useful with an assembly of a disk shaped target bonded to a larger-diameter backing plate. The cylindrical protector of JP '461 also has the drawback that it must be made within close tolerance to the size

of the sputtering target. The present invention provides a benefit that it can be used with varying sizes of hollow cathode sputtering targets including nonconforming sizes.

In addition, the through holes required by the claims of the present application require the holes to extend through a rigid flat plate that is capable of maintaining its shape after a vacuum is drawn. This is important because the resin bag adhering to the peripheral edge of the hollow-cathode-type sputtering target can result in the void of the sputtering target not being sufficiently evacuated. Further, with the void of the cup-shaped sputtering target being decompressed, there is the problem that the bag will be pulled inward and tension could cause the bag to burst. In JP '461, a hole is provided through an annular sidewall of the cylindrical protector (4), not through a rigid, flat plate. This sidewall location is much more susceptible to the above referenced problems.

Accordingly, for all the above reasons, Applicants respectfully request reconsideration and removal of the §103(a) rejection.

III. Conclusion

In view of the above amendments and remarks, Applicants respectfully submit that the rejections have been overcome and that the present application is in condition for allowance. Thus, a favorable action on the merits is therefore requested.

Please charge any deficiency or credit any overpayment for entering this Amendment to our deposit account no. 08-3040.

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